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AUGUST 18, 2000

PTAS

BURNS, DOANE, SWECKER & MATHIS, L.L.P.
MERCEDES K. MEYER
P.O. BOX 1404
ALEXANDRIA, VIRGINIA 22313-1404



101415684A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 08/14/2000

REEL/FRAME: 010878/0001
NUMBER OF PAGES: 9

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

CARULLI, JOHN P.

DOC DATE: 07/28/2000

ASSIGNOR:

LITTLE, RANDALL D.

DOC DATE: 07/26/2000

ASSIGNOR:

RECKER, ROBERT R.

DOC DATE: 07/25/2000

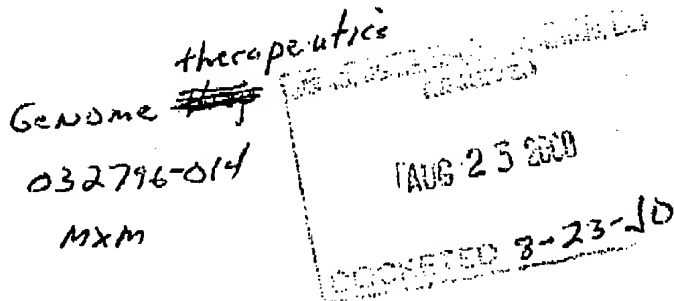
ASSIGNOR:

JOHNSON, MARK L.

DOC DATE: 07/24/2000

ASSIGNEE:

GENOME THERAPEUTICS CORPORATION
100 BEAVER STREET
WALTHAM, MASSACHUSETTS 02453



010878/0001 PAGE 2


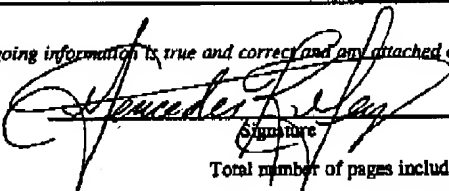
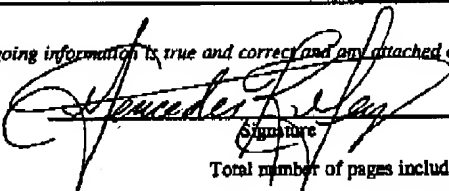
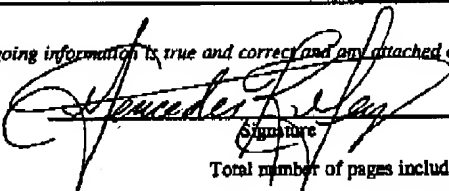
ASSIGNEE:

CREIGHTON UNIVERSITY SCHOOL OF
MEDICINE
601 NORTH 30TH STREET, SUITE 1609
OMAHA, NEBRASKA 68131

SERIAL NUMBER: 09543771
PATENT NUMBER:

FILING DATE: 04/05/2000
ISSUE DATE:

SHAREILL COLES, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

FORM PTO-1595 (Rev. 6/93)		08-14-2000  101415684		DEPARTMENT OF COMMERCE Patent and Trademark Office						
MRD 8-14-00		RECOR		Attorney's Docket No. 032796-014						
To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.										
1. Name of conveying party(ies): John P. CARULLI, Randall D. LITTLE, Robert R. RECKER and Mark L. JOHNSON Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name Other: _____ Execution Date: <u>7/28/00, 7/26/00, 7/25/00 and</u> <u>7/24/00, respectively.</u>			2. Name and address of receiving party(ies): Name: <u>Genome Therapeutics Corporation</u> Address: <u>100 Beaver Street, Waltham, MA 02453</u> <u>AND Creighton University School of Medicine</u> <u>601 North 30th Street, Suite 1609</u> <u>Omaha, NE 68131</u> Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: _____ <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> A. Patent Application No.(s) 09/543,771 </td> <td style="width: 50%; vertical-align: top;"> B. Patent No.(s) <div style="border: 1px solid black; width: 100px; height: 100px; margin: 0 auto;"></div> </td> </tr> </table> Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						A. Patent Application No.(s) 09/543,771	B. Patent No.(s) <div style="border: 1px solid black; width: 100px; height: 100px; margin: 0 auto;"></div>			
A. Patent Application No.(s) 09/543,771	B. Patent No.(s) <div style="border: 1px solid black; width: 100px; height: 100px; margin: 0 auto;"></div>									
5. Name and address of party to whom correspondence concerning document should be mailed: Name: Mercedes K. Meyer, Reg. No. 44,939 Address: BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404 Alexandria, Virginia 22313-1404 08/15/2000 JSHABAZZ 00000081 09543771			6. Total number of applications and patents involved: <u>1</u> 7. Total fee (37 CFR § 3.41): \$ <u>40.00</u> <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account, if necessary 8. Deposit account number: <u>02-4800</u>							
<table style="width: 100%;"> <tr> <td style="width: 30%;">01 FD-581</td> <td style="width: 30%;">40.00 DP</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">DO NOT USE THIS SPACE</td> </tr> <tr> <td>02 FD-584</td> <td>120.00 DP</td> </tr> </table>						01 FD-581	40.00 DP	DO NOT USE THIS SPACE	02 FD-584	120.00 DP
01 FD-581	40.00 DP	DO NOT USE THIS SPACE								
02 FD-584	120.00 DP									
9. Statement and signature. <i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i> <table style="width: 100%;"> <tr> <td style="width: 40%;"> <u>Mercedes K. Meyer, Reg. No. 44,939</u> Name of Person Signing </td> <td style="width: 30%; text-align: center;">  Signature </td> <td style="width: 30%; text-align: right;"> <u>August 14, 2000</u> Date </td> </tr> </table> Total number of pages including cover sheet, attachments, and document: <u>9</u>						<u>Mercedes K. Meyer, Reg. No. 44,939</u> Name of Person Signing	 Signature	<u>August 14, 2000</u> Date		
<u>Mercedes K. Meyer, Reg. No. 44,939</u> Name of Person Signing	 Signature	<u>August 14, 2000</u> Date								

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks
 Box Assignments
 Washington, D.C. 20231

Docket No. 032796-014Multi-JointASSIGNMENT

WHEREAS, we, John P. Carulli and Randall D. Little together with co-inventors Robert R. Recker and Mark L. Johnson, have invented a certain improvement in HIGH BONE MASS GENE OF 11q 13.3 described in an application for Letters Patent of the United States, the specification of which:

☐ is being executed on even date herewith and is about to be filed in the United States Patent Office;

☒ was filed on April 5, 2000 as Application No. 09/543,771;

☐ was patented under U.S. Patent No. _____ on _____.

WHEREAS, Genome Therapeutics Corporation (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 100 Beaver Street, Waltham, Massachusetts 02453 desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

-2-

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor: _____

John P. Carulli~~State~~/Commonwealthof MassachusettsCounty of MIDDLESEX, SS.

Then personally appeared before me the above-named John P. Carulli and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this 28th day of JULY, 2000.

Linda J. Shumaker

Notary Public

(SEAL)

LINDA J. SHUMAKER (print name)My Commission expires 08/03/01

Inventor: _____

Randall D. Little

State/Commonwealth

of _____

County of _____

Then personally appeared before me the above-named Randall D. Little and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this _____ day of _____, 19__.

Notary Public

(SEAL)

(print name)

My Commission expires ___/___/___

Docket No. 032796-014Multi-JointASSIGNMENT

WHEREAS, we, John P. Carulli and Randall D. Little together with co-inventors Robert R. Recker and Mark L. Johnson, have invented a certain improvement in HIGH BONE MASS GENE OF 11q 13.3 described in an application for Letters Patent of the United States, the specification of which:

- ☐ is being executed on even date herewith and is about to be filed in the United States Patent Office;
- ☒ was filed on April 5, 2000 as Application No. 09/543,771;
- ☐ was patented under U.S. Patent No. _____ on _____.

WHEREAS, Genome Therapeutics Corporation (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 100 Beaver Street, Waltham, Massachusetts 02453 desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

-2-

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor: _____
John P. Carulli

State/Commonwealth

of _____

County of _____

Then personally appeared before me the above-named John P. Carulli and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this _____ day of _____, 19__.

Notary Public

(SEAL)

(print name)
My Commission expires __/__/__

Inventor: Randall D. Little
Randall D. Little

State/Commonwealth

of Massachusetts

County of Middlesex

Then personally appeared before me the above-named Randall D. Little and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this 26th day of July, ~~2000~~ 2004

(SEAL)

Notary Public
Nina L. Pearlman (print name)
My Commission expires 4/9/2004

Docket No. 032796-014Multi-JointASSIGNMENT

WHEREAS, we, Robert R. Recker and Mark L. Johnson together with co-inventors John P. Carulli and Randall D. Little, have invented a certain improvement in HIGH BONE MASS GENE OF 11q 13.3 an application for Letters Patent of the United States, the specification of which:

☐ is being executed on even date herewith and is about to be filed in the United States Patent Office;

☒ was filed on April 5, 2000 as Application No. 09/543,771;

☐ was patented under U.S. Patent No. _____ on _____.

WHEREAS, Creighton University School of Medicine (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State of Nebraska, and having a usual place of business at ~~601~~ North 30th Street, Suite 160~~2~~, Omaha, Nebraska 68178 desires to ~~acquire~~ acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

-2-

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor: Robert R. Recker
Robert R. Recker

State/Commonwealth

of Nebraska

County of Douglas

Then personally appeared before me the above-named Robert R. Recker and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this 25th day of July, 2000

(SEAL)

Karla J. Maleske Notary Public

Karla J. Maleske (print name)

My Commission expires 1/30/03



Inventor: _____
Mark L. Johnson

State/Commonwealth

of _____

County of _____

Then personally appeared before me the above-named Mark L. Johnson and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this _____ day of _____, 19____.

(SEAL)

Notary Public

_____ (print name)

My Commission expires ____/____/____

Docket No. 032796-014Multi-JointASSIGNMENT

WHEREAS, we, Robert R. Recker and Mark L. Johnson together with co-inventors John P. Carulli and Randall D. Little, have invented a certain improvement in HIGH BONE MASS GENE OF 11q 13.3 an application for Letters Patent of the United States, the specification of which:

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☒ was filed on April 5, 2000 as Application No. 09/543,771;

☐ was patented under U.S. Patent No. _____ on _____.

meif WHEREAS, Creighton University School of Medicine (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State of Nebraska, and having a usual place of business at ~~X~~601 North 30th Street, Suite 160~~X~~, Omaha, Nebraska 68178 desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

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-2-

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor: _____
Robert R. Recker

State/Commonwealth

of _____

County of _____

Then personally appeared before me the above-named Robert R. Recker and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this _____ day of _____, 19__.

Notary Public

(SEAL)

_____ (print name)

My Commission expires __/__/__

Inventor: _____

Mark L. Johnson

Mark L. Johnson

State/Commonwealth

of Nebraska

County of Douglas

Then personally appeared before me the above-named Mark L. Johnson and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this 24th day of July, 192004

Karla J. Malesker Notary Public

Karla J. Malesker (print name)

My Commission expires 1/30/03

(SEAL)

